REMARKS

Applicants respectfully request further examination and reconsideration in view of the above amendments and arguments set forth fully below. Claims 1-6 were previously pending in the present application. Within the Office Action, claims 1-6 have been rejected. The Applicant is currently amending claims 1-4 and 6.

Claim Objections

Within the Office Action, claims 1-4 and 6 were objected to for various defects. The Applicant is currently amending claims 1-4 and 6 such that the claims includes proper antecedent basis and are sufficiently clear.

Claim Rejections under 35 U.S.C. § 103

Within the Office Action, claims 1-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 44-14970 in view of United States Patent No. 6,563,306 to Sato (hereinafter referred to as "Sato").

To establish a *prima facie* case of obviousness of a claimed invention, all the claimed features must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). The Applicants respectfully traverse this rejection, because neither JP 44-14970 nor Sato, either alone or in combination, disclose all of the limitations of Claims 1-6.

Specifically neither JP 44-14970 nor Sato teach or suggest a "magnet and [a] Hall device ... disposed such that on/off state of the Hall device changes when the magnet is displaced such that the boundary line of the magnet's poles crosses the operating point, enabling to detect that the magnetic material is displaced within the predetermined distance from the body of the magnetic material detection device."

Indeed, these limitations are substantial because they makes it possible to reduce size, weight and thickness of the magnetic material detection device utilizing the specific disposed relation between a magnet and the operating point of Hall IC, which is the purpose of the invention. Because of such reduction, the magnetic material detection device of the invention can be effectively applied to cellular phones, nursing-assist devices or other nursing-care equipments. However, a hypothetical combination of JP 44-14970 and Sato does not teach or suggest these features.

JP 44-14970 does not teach or suggest a "magnet and [a] Hall device ... disposed such that on/off state of the Hall device changes when the magnet is displaced such that the boundary line of the magnet's poles crosses the operating point, enabling to detect that the magnetic material is displaced within the predetermined distance from the body of the magnetic material detection device." JP 44-14970 involves a switch comprising a reed switch and a magnet, but not a magnetic material detection device comprising a Hall device and a magnet. Indeed, the Examiner admits on page 5 of the Office Action that JP 44-14970 does not show the boundary of poles of the magnet crosses the operating point of the detection means (i.e. Hall sensor) after displacement or a second magnet. Additionally, JP 44-14970 does not provide any suggestion on above-mentioned feature of our invention.

Likewise, Sato does not teach or suggest a "magnet and [a] Hall device ... disposed such that on/off state of the Hall device changes when the magnet is displaced such that the boundary line of the magnet's poles crosses the operating point, enabling to detect that the magnetic material is displaced within the predetermined distance from the body of the magnetic material detection device." Sato involves an apparatus for detecting the displacement of a magnet using a Hall device. Sato employs a plurality of Hall devices to solve a problem of a conventional apparatus comprising only one Hall device that the detectable range of the relative position between the device and the magnet is remained very small. The Examiner alleges that in Sato the boundary of the magnet poles crosses the operating point as shown in fig. 2. However, it is incorrect,

because Fig. 2 of Sato shows only the relation between displacement of the magnet and the Hall device and output voltage. It does neither show the operating point of the Hall device, nor that on/off state of the Hall device changes when the magnet is displaced such that the boundary line of the magnet's poles crosses the operating point.

On the other hand, claim 1 of the present invention requires the magnet 12 to be displaced such that the boundary line 12d of the magnet's poles crosses the operating point, on/off state of the Hall device 14 changes. This requirement enables the claimed invention to detect that the magnetic material 28 is displaced within the predetermined distance "d" from the body 10 of the magnetic material detection device 1. Therefore, when the output of the Hall device 14 changes, for example, from "on" state to "off" state caused by the displacement of the magnet 12, it can be detected that the magnetic material (iron piece) 28 is displaced within the predetermined distance "d" from the body 10 of the magnetic material detection device 1. Additionally, Claims 2 through 6 contain the limitation by reference to Claim 1.

For at least these reasons, Claims 1-6 are not obvious in light of a hypothetical combination of JP 44-14970 and Sato.

Allowable Subject Matter

The Applicants thank the Examiner for identifying allowable subject matter. Within the Office Action, the Examiner objected to Claim 4 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Examiner correctly states that the prior art fails to show a support member with a first magnet on its first end and a second magnet on its second end wherein the second magnet is located near a path of the magnetic material.

The Applicants add Claim 7 which represents Claim 4 rewritten in independent form including all of the limitations of the base claim and any intervening claims, and addressing the objections to Claim 1. Accordingly, Claim 7 is allowable.

Conclusion

In view of the foregoing, the application is considered to be in allowable condition. Applicant respectfully requests that the Examiner withdraw his objections and rejections and allow the application to issue as a U.S. Letters Patent.

Should the Examiner deem it helpful, he is encouraged to contact Applicant's attorney, at 650-474-8400.

Respectfully submitted,

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